In the Claims:

1. (Currently amended) A chimeric polypeptide comprising: a virus coat polypeptide sequence, a viral cell surface receptor polypeptide and an amino acid sequence spacer, wherein the amino acid sequence of the chimeric polypeptide is a full length reference sequence, a truncated sequence or a modified sequence, wherein the modified sequence has about 95% identity to the full length reference sequence or truncated sequence and ~~virus coat polypeptide sequence~~ has the functionality of forming an intramolecular interacting complex between the virus coat polypeptide and viral cell surface receptor, wherein the virus is an immunodeficiency virus selected from the group consisting of retroviruses HIV, SIV, FIV, and FeLV, wherein the ~~a~~ viral cell surface receptor polypeptide sequence comprises amino acid residues of the region of CD4 having binding ~~that has a bonding~~ affinity for the virus coat polypeptide sequence, and ~~an~~ the amino acid sequence spacer is linked to both the virus coat polypeptide sequence and the viral cell surface receptor polypeptide sequence and positioned therebetween to form a single chain polypeptide of peptidic bonds, wherein the spacer consists of an amino acid sequence of sufficient length to allow the single chain polypeptide to fold thereby permitting the virus coat polypeptide sequence and the viral cell surface receptor polypeptide sequence to form ~~an~~ the intramolecular interacting complex.

2. (Previously presented) The chimeric polypeptide of claim 1, wherein the virus is a virus having an envelope polypeptide.

3. (Previously presented) The chimeric polypeptide of claim 1, wherein the virus is a virus that binds a co-receptor polypeptide.

4-5. (Cancelled)

6. (Previously presented) The chimeric polypeptide of claim 1, wherein the HIV is HIV- 1 or HIV-2.

7. (Previously presented) The chimeric polypeptide of claim 1, wherein the HIV is a macrophage tropic or a lymphocyte tropic HIV.

8. (Previously presented) The chimeric polypeptide of claim 2, wherein the envelope polypeptide comprises a gp 120 polypeptide sequence.

9. (Previously presented) The chimeric polypeptide of claim 8, wherein the gp120 polypeptide sequence lacks 60 amino acids from the amino terminus and 20 amino acids from the carboxyl terminus.

10. (Cancelled)

11. (Currently amended) The chimeric polypeptide of claim 1 ~~10~~, wherein the CD4 polypeptide sequence comprises the Dl and D2 domains.

12. (Cancelled)

13. (Previously presented) The chimeric polypeptide of claim 1, wherein the spacer has from about 5 to about 200 amino acids.

14. (Previously presented) The chimeric polypeptide of claim 1, wherein the spacer has from about 10 to about 100 amino acids.

15. (Previously presented) The chimeric polypeptide of claim 1, wherein the spacer has from about 15 to about 50 amino acids.

16. (Previously presented) The chimeric polypeptide of claim 1, wherein the spacer has from about 20 to about 40 amino acids.

17-23. (Cancelled)

24. (Previously presented) The chimeric polypeptide of claim 1, further comprising a pharmaceutically acceptable carrier.

25-33. (Cancelled)

34. (Withdrawn) A method for producing an antibody that binds to the chimeric polypeptide of claim 1, comprising administering the chimeric polypeptide of claim 1 to a subject in an amount sufficient for the subject to produce antibody to the chimeric polypeptide of claim 1.

35. (Withdrawn) A method for inhibiting virus infection in a subject comprising administering to the subject an effective amount of the chimeric polypeptide of claim 3, or a polynucleotide encoding the chimeric polypeptide of claim 3, to inhibit virus infection of a cell expressing a virus co-receptor polypeptide, thereby inhibiting virus infection.

36. (Cancelled)

37. (Withdrawn) The method of claim 35, wherein the subject is a human.

38. (Withdrawn) A method for producing an immune response to a virus in a subject comprising administering to the subject an effective amount of the chimeric polypeptide of claim 1, or a polynucleotide that encodes the chimeric polypeptide of claim 1, to produce an immune response to the virus.

39. (Cancelled)

40. (Withdrawn) The method of claim 38, wherein the subject is a human.

41. (Withdrawn) The method of claim 38, wherein the immune response comprises an antibody.

42. (Withdrawn) The method of claim 41, wherein the antibody binds to an epitope produced by the binding of the virus coat polypeptide sequence and the receptor polypeptide sequence.

43. (Withdrawn) The method of claim 41, wherein the antibody neutralizes the virus *in vitro*.

44. (Withdrawn) The method of claim 38, wherein the immune response comprises a CTL response.

45. (Withdrawn) The method of claim 36, wherein the immunodeficiency virus is HIV.

46. (Withdrawn) A method for identifying an agent that inhibits an interaction between a virus and a virus co-receptor comprising the steps of:

(a) contacting the chimeric polypeptide of claim 1 with a virus co-receptor under conditions allowing the chimeric polypeptide and the co-receptor to bind, in the presence and absence of a test agent; and

(b) detecting binding in the presence and absence of the test agent, wherein decreased binding in the presence of the test agent thereby identifies an agent that inhibits binding between the virus and the virus co-receptor.

47.- 48. (Cancelled)

49. (Withdrawn) The method of claim 46, wherein the test agent is added after contacting the chimeric polypeptide with the virus co-receptor.

50. (Withdrawn) The method of claim 46, wherein the test agent is added before contacting the chimeric polypeptide with the virus co-receptor.

51. (Withdrawn) The method of claim 46, wherein the test agent is a library of agents.

52. (Withdrawn) The method of claim 46, wherein the test agent is selected from the group consisting of a peptide, an organic molecule, an antibody, an antiviral, an immunodeficiency virus co-receptor or functional fragment thereof.

53. (Withdrawn) The method of claim 46 ~~47~~, wherein the immunodeficiency virus co-receptor is a CCR5 or CXCR4 polypeptide sequence.

54. (Withdrawn) The method of claim 46, wherein the virus co-receptor is present on the surface of an intact cell.

55. (Withdrawn) The method of claim 54, wherein the intact cell is present in an animal.

56. (Withdrawn) The method of claim 55, wherein the animal is a non-human primate.

57. (Withdrawn) A method for identifying an agent that inhibits an interaction between a virus and a virus receptor comprising the steps of:

a) contacting the chimeric polypeptide of claim 1 with a test agent; and

b) detecting binding between the virus coat polypeptide sequence and the viral receptor polypeptide sequence, wherein a decreased amount of binding in the presence of the test agent identifies an agent that inhibits binding between the virus and the virus receptor.

58-59. (Cancelled)

60. (Withdrawn) The method of claim 57, wherein the test agent is added after contacting the chimeric polypeptide with the virus receptor polypeptide.

61. (Withdrawn) The method of claim 57, wherein the test agent is added before contacting the chimeric polypeptide with the virus receptor polypeptide.

62. (Withdrawn) The method of claim 57, wherein the test agent is a library of agents.

63. (Withdrawn) The method of claim 57, wherein the test agent is selected from the group consisting of a peptide, an organic molecule, an antibody, an antiviral, an immunodeficiency virus receptor or functional fragment thereof.

64. (Cancelled)

65. (Withdrawn) The method of claim 57, wherein the virus receptor polypeptide is present on the surface of an intact cell.

66-72. (Cancelled)

73. (Previously presented) The chimeric polypeptide of claim 1, wherein the intramolecular interacting complex formed between the virus coat polypeptide sequence and the viral cell surface receptor polypeptide sequence exposes an epitope that is hidden without the formation of the intramolecular interacting complex.

74. (Currently amended) A chimeric polypeptide comprising:

a virus coat polypeptide sequence, a viral cell surface receptor polypeptide and an amino acid sequence spacer, wherein the amino acid sequence of the chimeric polypeptide is a full length reference sequence, a truncated sequence or a modified sequence, wherein the modified sequence has about 95% identity to the full length reference sequence or truncated sequence and has the functionality of forming an intramolecular interacting complex between the virus coat polypeptide and viral cell surface receptor, wherein the virus coat polypeptide sequence is ~~comprising~~ HIV gp120 comprising the amino acid residues of HIV gp120 having binding affinity for the cell surface receptor, wherein the ~~a~~ viral cell surface receptor polypeptide sequence comprises amino acid residues of the region of CD4 having binding~~, wherein the viral receptor polypeptide comprises CD4 that has a bonding~~ affinity for gp 120, and an amino acid sequence spacer linked to both the virus coat polypeptide sequence and viral cell surface receptor polypeptide sequence and positioned therebetween to form a single chain polypeptide of peptidic bonds, wherein the spacer consists of an amino acid sequence of sufficient length to allow the single chain polypeptide to fold thereby permitting the virus coat polypeptide sequence and the viral cell surface receptor polypeptide sequence to form an intramolecular interacting complex.

75. ((Previously presented) The chimeric polypeptide of claim 74, further comprising an IgG tag.

76. ((Previously presented) The chimeric polypeptide of claim 74, wherein the gp120 polypeptide sequence lacks 60 amino acids from the amino terminus and 20 amino acids from the carboxyl terminus.

77. ((Previously presented) The chimeric polypeptide of claim 74, wherein the CD4 polypeptide sequence comprises the Dl and D2 domains.

78. ((Previously presented) The chimeric polypeptide of claim 74, wherein the spacer has from about 5 to about 200 amino acids.

79. ((Previously presented) The chimeric polypeptide of claim 74, wherein the spacer has from about 15 to about 50 amino acids.